

THE CHEMIST

AUGUST, 1947



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KENNETH E. SHULL

(See page 335)



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IN THIS ISSUE

Opportunities for Chemists Outside of the Laboratory—Panel Discussion	317
The Pros and Cons of Going into Business	328
National Scientific Legislation	332
We Present the A.I.C. Chapters—Pennsylvania	334
Student Medal Awards	336
What Younger Men Expect the A.I.C. to Do	337
Necrology	341
Council	345
Chapters	348
For Your Library	350
Chemical Condensates	356
Professional Services	353

and inside back cover

SCHEDULED FOR EARLY ISSUES OF THE CHEMIST:

"Organizing a Research Department," by Dr. Johan Bjorksten, F.A.I.C.

"Early History of the A.I.C.," by Dr. Lloyd Van Doren, Secretary A.I.C.

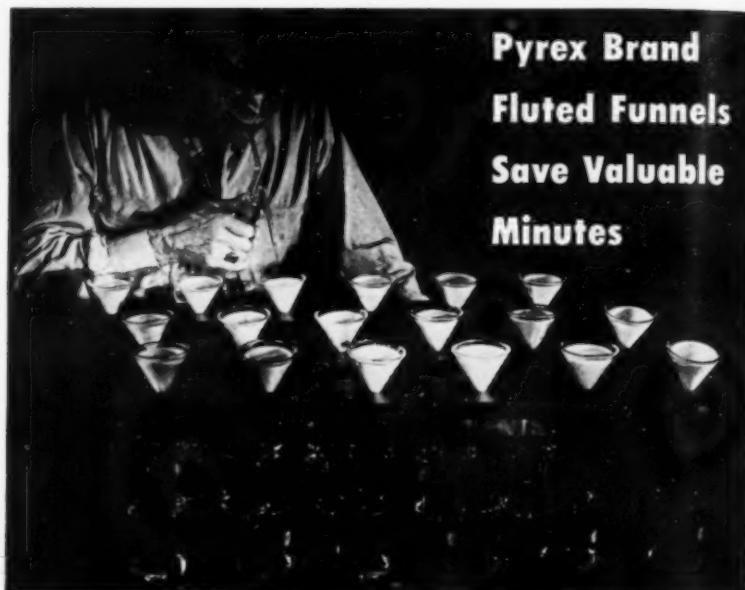
Report of the Chicago A.I.C. Chapter Committee on Professional and Economic Status.

"The Atomic Age of Promise," by Dr. Cloyd Heck Marvin.

"The Ethics of the Research Worker," by Louis Elsberg Wise.

Other articles of professional interest.

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Opportunities For Chemists Outside of the Laboratory

A Panel Discussion held by the New York Chapter, A.I.C.

Technical Coordination

John B. Calkin, F.A.I.C.

Coordinator of Research, Union Bag & Paper Corporation, New York, N. Y.

IN LARGE organizations there has been a growing complexity of the technical side of the business. It has been found that the technical aspects of sales, sales service, manufacturing, and research need a broad coverage in order to obtain maximum benefits. Technical coordination may coordinate two or more phases. Coordination may cover sales and research. Work in technical coordination may involve covering such diverse fields as chemistry, chemical engineering, mechanical engineering, market research, and forestry.

In setting up pre-requisites for technical coordination, I am not going to try and give them in any definite order, although I have numbered them. My reason for not assigning preference is because it depends upon the weighting of a particular asset. In other words, one might be particularly strong in one category and deficient in another but the net integration would be satisfactory. Among the qualifications for technical coordination are:

1. Ability to get along with others.
2. Sincerity.
3. Horizontal scientific or technical ability and experience.
4. The ability to organize.
5. \$-sense.

I am sure that you all understand what I mean by getting along with people and by sincerity. These have been defined so many times that I see no need to do other than touch upon them as above.

In addition to four years of undergraduate education it is advantageous to have a broad graduate education, preferably at more than one institution, because this will give a broader basis and more contacts. It is advantageous in the educational program, if time permits, to have a liberal arts background because it should be realized that in many instances contacts are made with non-technical people and the broadest possible background will be most helpful in shaping the discussion or interview.

The coordinator should have a wide

series of contacts both within his own and allied industries. Knowing people and companies on a friendly basis is highly advantageous because in this way valuable information is obtained. Work of this type entails a considerable amount of travel and attendance at meetings. Don't let anyone give you the idea that this is an easy life, because you have to be on the job twenty-four hours a day and still keep up with your necessary office work.

A high degree of expertness in one field has its place but not in technical coordination. One might start out in a broad field. I started as a microscopist. Now this field gets one into a lot of things including some troubles. However, the field can bring one in touch with fibres for papermaking and textiles, finished paper and textiles, and converted products. In addition, it brings one in contact with metals, bacteriology, crystal structure, etc. If one has sufficient intellectual curiosity and incentive to learn more about these industries, he can easily see how he will broaden himself, especially if he can get or make the opportunity to talk to some people whose daily work is in these industries.

The need for organizing ability is apparent when one looks at the mass of material and information which at first blush may be unrelated. Some plan must be devised for correlating this information. I am not

going to go into any plans on this because each plan must fit the particular needs of the situation. I do want to say, however, that if at any time you get a chance at any organizing job, take it because what you learn may be a valuable asset. I remember getting a particularly knotty problem on which a lot of work had been done. I worked out a flow sheet for the information.

Dollars-sense reminds me of a story of the economist who asked his class a question in connection with the steel industry. The story runs something like this:

Professor: "Why does a steel mill exist?"

Student: "To make steel."

Professor: "Wrong. It exists to make money."

For the long pull any coordinator is going to assist the rest of the people in the company to keep the company's competitive position and make money.



Holihan Awarded Fellowship

John V. Holihan, M.A.I.C., plant control chemist at Oakite Products, Inc., Brooklyn, N.Y., has been awarded a graduate research fellowship to the Department of Anatomy, School of Medicine, University of Rochester, New York, to start September first. He will do research on vitamins under Dr. Karl E. Mason, head of the Department of Anatomy.

OPPORTUNITIES FOR CHEMISTS . . .

Patents

(An Abstract)

A. R. Goldsby

Technical Adviser, Texaco Development Corporation

OUR industrial supremacy, which was demonstrated in the last war, is due in no little part to the patent system. Chemistry, research, and the patent system are closely interrelated. For this reason, all of us who are interested in chemistry should be interested in patents and the patent system.

There are two phases of the patent field in which a young person might well be interested:

(1) Liaison work between the research laboratory and the patent department.

(2) Patent attorney.

The nature of liaison work results in more contact with people than does laboratory work. For example, the patent man will attend meetings and spend time with the research men to determine how their ideas may be worked up into patentable form. The patent man will also deal with more problems than does the research man, for it is his business to consider the work of others and to try to make something out of their work. For this position, the young man will need to acquire some knowledge of patent law. (There is some worthwhile information in a pamphlet, entitled "Patent Manual," Miscellaneous Publication No. 551, which may be

obtained from the Government Printing Office for ten cents.) The technical man may pick up some knowledge of the subject by reading books on patent law, or by taking a course in it at a university which offers this subject in night school. In this way a background is obtained. After he has acquired sufficient knowledge, he may take the Civil Service examination to be a Patent Agent, which entitles him to practice, though not to appear in the courts. In the course of his liaison work he will have ample opportunity to observe the detailed work of patent attorneys and to decide whether he wishes to become one.

If the young man decides to become a patent attorney, his duties will be to translate the inventions from the laboratory into patents, which consists largely of filing and prosecuting applications. The patent attorney has to have a much more detailed knowledge of patent law. He may gain this knowledge by working with other patent attorneys, but he must also have a law degree. A degree will require three years in day school or four years in night school. Many technical men work in the U. S. Patent Office or in private companies in the daytime and

go to law school at night.

Men often decide to go into patent work after they have had some laboratory or research experience. So,

regardless of whether you wish to go into non-laboratory work at once or later, let me suggest some form of patent work to you who have an interest in non-laboratory work.

The Chemist as Teacher

(An Abstract)

Joseph Muenzen, S. J.

Fordham University

WHEN we read the headlines we find such statements as:

"1,000,000 U. S. Children

Without Teachers"

"One-half of Our Teachers

Have Left Jobs"

"U. S. Crises in Education"

"Are Teachers' Strikes Justified?"

Nevertheless, I emphasize that the teaching profession is a worthy one for the young chemist. At present there are many vacancies and the demand for teachers is very great. Thousands of students are being turned away from our higher institutions of learning for lack of facilities and teaching staffs.

In spite of teachers' strikes and demands for higher salaries, all of which has so forceably been brought to our attention by the newspapers, I contend that the teaching profession is the best paid of all. I do not say that the teacher is the highest in the income bracket, nor that he receives the fattest check. By no means, but there are other things in life besides money. As the educator, Horace Mann, once said, "Teaching

is the noblest work that man or angels may do." There is great satisfaction to know that you have a share in molding stubborn material into a fine product; to know you have planted the seeds of knowledge, culture, and truth. This is the idealistic approach to the subject.

Let us consider the practical approach. The teacher will instruct fifteen to twenty hours a week, which represents six-hundred hours for a thirty-week year. Compare with this the research chemist who devotes 2600 hours per year to his job. Add to the teacher's advantage in time, the invigorating stimulus of the academic atmosphere; the freedom for leisurely research; his cultured associates—these are but a few of the intangibles of the profession. While you may say that this will not buy butter and eggs at the grocer's it will take the "butter and eggs" attitude out of your life. Then, too, life insurance figures tell us that the life expectancy of a teacher is twenty per cent greater than that of an industrialist. Also, some teachers do

OPPORTUNITIES FOR CHEMISTS . . .

consulting in addition to teaching, and they can sometimes make twice their salaries out of it.

If a young man has the ability,

temperament, and personality, he should not hesitate to choose teaching. We need teachers. There is a greater demand for them now than ever before.

The Interpolation of Molecules to Money

William D. Neuberg, F.A.I.C.

President, *William D. Neuberg Company, Inc., New York, N. Y.*

ALTHOUGH this title sounds highly technical, interpolation is actually an inference as to how values vary between the definite and the assumed. In other words, everything is subject to change, and though a young chemist might assume from the title that, with established values for one or more sets of molecules, the relation of these molecules to other molecules might be estimated in terms of money. However, business is not made on a slide rule.

At school the student is apt to look to his degree as the main objective. After graduation, life takes on new aspects. A technical training helps to straighten one's thinking, but we must be flexible and be able to give and take in order to make money.

To be successful we must be interested in our work. Be on the job. Keep fit physically. Stick to our friends. Use good judgment. Put first things first. Use imagination. Be progressive. These are all factors in the art of making money.

Then, too, there is the matter of "getting the breaks." Be able to take

advantage of opportunities. Do not let tough luck get you altogether down. There is always something better ahead. Above all, do for the other fellow as you would have the other fellow do for you.

For many years, I have felt that our schools should emphasize the importance of putting into practice the subjects which are taught in the classroom and in terms of making a living. Of course, most of this is only learned from experience, but on the other hand, if business men could be induced to give lectures, it might prove quite helpful to the students. Such a program could be of immense value to undergraduate and young chemists.

Cyril S. Kimball, F.A.I.C., of Foster D. Snell, Inc., New York, N. Y., has been elected 1947-1948 chairman of the American Section of The Society of Chemical Industry. Walter J. Baeza, F.A.I.C., president, Industrial Research Company, New York, N. Y., was elected honorary treasurer.

Commercial Development

James G. Park, F.A.I.C.

Vice President, Enjay Company, Inc., New York, N. Y.

A WELL balanced chemical concern, in addition to research and production departments, obviously, must have a commercial division which is usually broken up into the following divisions:

- (a) Market Research
- (b) Technical Service
- (c) Sales

Market Research

A market research department is a rather new development in the chemical industry, the function of which is to collect facts which will aid the management in determining what products a company should be in—not only to make a profit, but also to enable the company to be progressive and to develop new lines to replace the old ones.

To be successful, a market researcher requires, first, a good chemical background, preferably with graduate work. In market research he should also know the fundamentals of economics, and understand the use of statistics. He should have plenty of common sense which is sometimes expressed as "business ability."

A good market researcher should always be working himself out of a job as, obviously, the number of products that can be developed and produced within a given time is

limited. However, the intimate knowledge he gains regarding the markets, in making these services, generally equips him to go into either sales or executive work so that ultimately he ends up as a sales manager, or assistant to the president.

As the subject of technical service is being covered by another speaker, we will not touch upon that phase in this talk.

Sales

To succeed in the sales field, the fundamental requisite is a liking for people and a desire to understand human nature. Sales is essentially not selling of products, but the selling of wants or ideas to people. If you have a new product, you must first sell the prospective buyer the idea that he needs or wants your product. The salesman must be able to talk intelligently, not only about the product but about the buyer's business. The selling job is primarily one of service, and the salesman should understand production problems, etc. in the fields where his buyers are situated.

The quality of the product is often not the selling point because practically all chemical products are sold on definite specifications. In most cases, the price is also not a very important selling point. The sales-

OPPORTUNITIES FOR CHEMISTS . . .

man must concentrate on selling service and ideas to the prospective buyer, such as new outlets for his products or business. This point is especially true in the chemical industry where sixty per cent of a manufacturer's chemicals are sold within the industry.

There are some disadvantages to the position of salesman — for one

thing he may have to spend forty per cent of his time away from home. It is also true that a salesman rarely becomes president of a company, because he seldom has an opportunity to acquaint himself with financial problems. His ultimate goal generally is vice president in charge of sales, or sales manager.

Technical Service

(An Abstract)

Dr. Donald Price, F.A.I.C.

Technical Director, Oakite Products, Inc.

FIRST, I want to make it clear that we do not want to take the real research man out of the laboratory. To such a man there is real satisfaction and happiness in the laboratory, and at present there is a great need and demand for competent laboratory people.

We do want to point out to the technically trained young men, though, that there are other fields than the laboratory where, if they are inclined, they can use their technical training to advantage.

Among these outside fields, none is more promising than the field of technical service. Technical service may be defined as those activities which are designed to increase the use of chemicals. Many chemical organizations have large programs devoted to the use of by-products and the utilization of cheap raw materials

into the manufacture of more valuable specialty chemicals. Then, too, new chemicals may be discovered or rare chemicals may be made abundant. The technical service man has to be thoroughly conversant with chemicals, and he must have the ability to find out where a given chemical will fit into industry. This requires ingenuity. He has to give close study to the problems of finding a place for new chemicals or new uses for old chemicals, or even to locate suitable outlets for a wealth of once-scarce material which is now available at lower prices.

He may also be called upon to advise the research laboratory. This will be easier, if he is acquainted with the research laboratories of his company. In this capacity, he needs to be a diplomat. He may be able to point out to the research director

where, by a slight re-orientation, a chemical can be made for which there is a market demand. It may be necessary for him to discourage, tactfully, the pet projects of the research director, where these are unlikely to produce marketable products.

The proper qualifications for the technical service man are:

- (1) A sound background of chemical training.
- (2) A liking for the practical application of chemical knowledge.
- (3) A record of good scholarship.

He must be able to master the details of industrial processes. There are headaches in industrial processes which are not to be found in books.

- (4) Ingenuity.
- (5) He should be a bit of a salesman, in that he must like people and have a good personality.

Technical service offers a promising career. The technical service man is close to management and close to sales. If he is good, he is bound to be noticed. Many technical service men now occupy high positions.

Industrial Advertising

(An Abstract)

Paul Slawter, Jr.

Vice President, The House of J. Hayden Twiss

THIS is an appeal to young men with technical training, who may find that industrial advertising appeals to them. There is a definite need in this field and it offers excellent opportunities and satisfaction. Industrial advertising is a progressive and flourishing profession.

The qualifications for this field are industrial and technical knowledge, a good cultural background, and perhaps a flair for visualizing the unusual. We would like to find more technical writers who have the perspective of the chap who was hired by a copy chief because he said a horse looks like a violin from above.

Today, in our firm, we can use a half-dozen more young men or women who know chemistry and have perspective.

Industrial advertising differs from general advertising in that technical information should be given in the language of the engineer. The engineer or technical man cannot be sold by fanciful picture-words, associated ideas, or "sales talk." He wants factual information about the products.

If an attempt is made to write technical advertising without a knowledge of the technical words used in the specific industry, some amusing

OPPORTUNITIES FOR CHEMISTS . . .

things can happen. We once had a girl who prepared an advertisement on activated carbon. She changed the word "adsorptive" to "absorptive." After the advertisement appeared in print, we were deluged with letters from indignant technical readers. In another case, and this too is typical of what can happen, a label was made which stated that the product con-

tained "0.3 per cent of petroleum carbohydrates." The Federal bureau which passes on labels refused to pass on this one. When it was changed to read, ". . . petroleum hydrocarbons," it was promptly approved.

I strongly recommend the field of industrial advertising to young men who are talented in this line.

Technical Journalism

(An Abstract)

Robert L. Taylor, F.A.I.C.

Editor, CHEMICAL INDUSTRIES

A FRIEND of mine once said that editing was a grand profession for somebody else. Actually, for the man who likes it, it is the only profession. Moreover, it offers happiness, satisfaction and a good living.

A technical journalist may be considered as the communications officer of his industry. I feel that the opportunities in this field are certain to expand and that the number of people employed in it will increase faster in proportion than the number of people employed in chemical industry.

There are many opportunities in this profession in addition to editing and writing for the technical journals. Chemical advertising is one of these. There are many openings in chemical companies for those who like to write product literature, reports, brochures, bulletins, and even house organs. We

have had a tremendous number of calls for such persons. All of the large chemical companies are building up writing staffs.

Editing is an exacting, exciting, and remunerative profession. "Remunerative" must be qualified somewhat to include the intangible values of thrill of achievement, satisfaction, prestige, contact with people, and opportunity to travel. Financially, do not look for big money in the editing field. Advertising salesmen have been known to make more money than the editors.

Editors often receive offers from companies in industry, but most of them stay with editing because they value highly its intangible compensations.

The requirements for a career in technical journalism are the ability

to express oneself in writing, curiosity, a nose for news, discretion and judgment, and, preferably, some experience in industry. All of the editorial men on our publication have had practical

experience in industry.

There is plenty of opportunity in technical journalism, and for the man who likes this work, it is the only field.

Scientific Books

(*An Abstract*)

Francis M. Turner

Vice President and Publishing Director, Reinhold Publishing Corporation

ACAREER in the scientific book field may be found either in the use of books, or in the making of books. The latter includes the editing, production, and distribution of scientific and technical literature.

I know of but one case where a man went to college for the express purpose of training himself to be a compiler of books. He fitted himself for a technical education, and in addition took courses in every subject which he thought would help him to compile books. Most men in this field have drifted into it from teaching, research, or managerial jobs.

If a young chemist wants to get into the writing and editing of scientific literature, he is well-advised to start thinking about it early in his educational life. He should learn a great deal about at least one branch of chemistry or physics and he should know something about many others. He should also learn how to write clear, lucid English, a subject about

which scientific writers too frequently know nothing. Also he should be able to read and write at least two foreign languages.

The average scientific manuscript requires a great deal of editing and rewriting. Even when it meets the technical requirements, the writing remains turgid and hard to read. The man who succeeds in scientific book preparation has to come close to knowing something about everything.

A young man should not choose the making or editing of books as a career, unless he likes this kind of work. Its material returns, however, can be as great as those in any other scientific field.

The use of books refers to library research and bibliographic research. If these are not done properly, serious losses can occur. The Division of Chemical Education of the American Chemical Society has been giving much attention to the training of young men and women to do library

OPPORTUNITIES FOR CHEMISTS . . .

research. Wayne University in Detroit, in connection with the Kresge-Hooker Library, gives courses in this subject. Too often, companies have been known to give library research work to some young and inexperienced person or else to some aged pensioner whose experience has never been in that field. Such a policy is inefficient and costly.

The skilled use of technical books today receives satisfactory financial reward. There are instances of men engaged in this kind of work who are paid upward of \$10,000 a year.

The intangible rewards are great in the scientific book field, and there are contacts with many interesting and important people in the scientific world. Granted an aptitude, young men and women may be advised to take up this work as an interesting career.

Institute for Research Expands

The Institute for Research, 393 West First Street, Dayton 2, Ohio, has acquired larger quarters for administrative offices and laboratories. The organization is directed by Charles A. Dille, M. D.

Dr. E. L. Luaces, F.A.I.C., has been retained in an advisory capacity for the selection of additional research personnel and the management of research projects in the industrial fields. The present staff numbers eighteen, including pathologists, bacteriologists, chemists, and medical technicians.

The Institute's work is primarily in the fields of bacteriology, toxicology, immunology, fermentology, and sensitization; but the expanded facilities include equipment for process development and pilot plant production of rare chemicals for medicinal purposes, and the utilization of industrial by-products for medicinal and nutritional products.

Patent Application Time Extended

Extension of time for filing patent applications, where failure to file was due to war contingencies, was approved by President Truman when he signed HR 3958. This act extends the August 8, 1947, deadline provided under the Boykin Patent Priorities Act to February 29, 1948.

Elected by Industrial Research Institute

Dr. Norman A. Shepard, F.A.I.C., chemical director, American Cyanamid Company, has been elected president of the Industrial Research Institute, 60 East 42nd Street, New York, N.Y., a non-profit organization for the promotion of improved management in industrial research. Dr. Paul De Vries Manning, F.A.I.C., vice president in charge of research, International Minerals and Chemical Corporation, Chicago, Illinois, was elected to the Board of Directors of Industrial Research Institute.

The Pros and Cons of Going into Business

Walter R. Hoover

Reprinted by Courtesy of The Hexagon, Publication of Alpha Chi Sigma

CHEMISTS, we believe, are more or less like other men, and have therefore, at some time or other, flirted with the idea of going into business for themselves rather than continuing to work for a large company, provided their experience and training warrant the venture. This article is written at the suggestion of the Grand Recorder who is familiar with my plunge into the icy venture of a small business, self-propelled; and he has suggested that words on this subject from a young man might be particularly interesting to younger chemists. In the following I refer to "technically trained men" but the phrase, in my own case, and many others, I am sure, can be synonymous with the word "chemists."

What then, from a young chemist's point of view are the pros and cons of these two possibilities — working for a large company or for one's self? What are the advantages offered by each to a person who must decide how he can be happiest in his work, and at the same time be of most service to his fellows?

Obviously, how each person should

answer this question depends upon a great many factors, such as the temperament of the individual, the availability of needed capital, and the immediate opportunity. Also, a person facing this decision must necessarily investigate the advantages of creating and building a business compared to working for a large, well-established company.

In many cases, these answers will in themselves largely contribute to the final decision. Actually, it is extremely hard to visualize the advantages of working for a large company until one has faced the many problems of starting a business. It is not at all hard, on the other hand, to visualize, or even overemphasize the advantages of owning and directing one's own enterprise.

Perhaps the greatest advantage a technical man attains by working for a large company is security. In the modern day businesses, good technical men are badly needed, and therefore situated to attain responsible positions quickly in large companies, and to become of such value, because of their technical training and their

THE PROS AND CONS OF GOING INTO BUSINESS

ever-increasing experience, that they can be reasonably sure of spending their working years in pleasant and well-paid positions with the certainty of benefiting by retirement plans offered by most large concerns.

When working for a large company, there is usually available sufficient money to carry out technical projects with the best and most suitable types of equipment; also there is at hand plenty of auxiliary equipment around the plant to take care of any special type of work. In a small business it is often necessary to spend large amounts of time and money locating the different types of equipment necessary for the proposed project, and even more frequently it is necessary to create the piece of equipment out of wood, angle iron, bolts and bailing wire. The problems of turning out efficient production under such conditions are obviously many.

When a project is begun for a large company, there are available almost unlimited sources of expert advice—good machinists, good electricians, heat engineers, layout and time study engineers, and chemists with their laboratories to help solve your problems. Most large companies also offer a good technical library in which data most often needed can be found.

It is only by directing a small business that one learns to appreciate the office personnel's handling of the

books, sales, orders, and production control; or long for a purchasing department where it is necessary only to give an experienced purchasing agent a vague outline of what you need, to find it resting on your desk or in your department within a few days, obviating on your part a search for the sources of supply, checking the various advantages and disadvantages of this or that type of purchase and their costs, and the final decisions involving the economical aspects invariably attached thereto.

After you have run your own small business for awhile, it becomes easy to realize that you never before appreciated a well-operated personnel department which has an uncanny ability for locating trained workers to perform difficult tasks. After having figured out the time and overtime of perhaps a dozen employees, calculated their withholding tax, subtracted social security, written out the checks, and tabulated all this data for governmental milestones, during which performance one is interrupted at least a dozen times by matters of greater priority—well, one remembers wistfully the system which seemingly automatically took care of all these trivial details in the large company.

When important decisions must be made in a large company, the facts can be gathered, an opinion formed, and the story presented to an immediate superior to make the final

decision and take the responsibility for it. By contrast, in a small company, the facts and figures which are necessary to make even the smallest and seemingly unimportant decisions must be carefully weighed and the correct decision reached in almost every case, or a long, lean wolf comes sniffing at the door. You will also miss the expert guidance of your superiors who have had years of experience in analyzing the trend which your work should take and the phases of the work upon which emphasis should be placed.

Most large companies have a number of employee activities, such as retirement plans, training programs, athletic activities and clubs, all of which are accepted as a matter of course, but which are soon missed after leaving.

Quickly to manifest itself also, is the lack of the prestige which you unconsciously enjoyed while representing a large company when dealing with both customers and sources of supply. The quickened interest and the special services caused by an inquiry from a large company are replaced by routine and unpersonalized answers because of the difference in the potential business involved.

There are, however, certain definite advantages in owning and directing a small business. First, and perhaps the most important reason to most beginner is the possibility of becoming financially independent. In a large

company, the opportunities of making more than a good living are few, and often dependent upon more than ability alone.

In a small company, you have a greater opportunity to control your own destiny. If your decisions are correct, your reward is commensurate; if not, the results directly affect you. Many times in a large business you are required to perform duties which are not those you would choose, and oftentimes they become boring and inescapable. In a small business, even such menial and time consuming tasks as keeping books or paying bills are definitely not boring. In a small business one is free from the political aspects which are a part of all big organizations and almost as important as the quality of one's work.

One of the less tangible but very real rewards of starting a small business is the feeling derived from creating work for your employees and giving them the opportunity to turn their efforts into usable goods, coupled, of course, with the responsibility for their welfare, and the knowledge that your mistakes will directly affect them and their families.

Probably the greatest reward of being in a business of your own is the additional thrill of a job well done, and the triumph experienced when your goods or services are accepted and in demand by the public.

Sometimes, after a hard day's work, and odds and ends are still piled high

THE PROS AND CONS OF GOING INTO BUSINESS

before you while a new disappointment has just arisen—they often do—you remember longingly the days of greater security and less responsibility. Nevertheless, the thought is short-lived, and the prospect of returning to employment with a large company pales and becomes uninteresting . . .

Plastics Research

"We can estimate that at least fifty million dollars has been spent in the United States on Plastics research since 1939, and the number of technically trained specialists engaged in this field has probably trebled in the last eight years," Dr. N. N. T. Samaras, director of research for Monsanto's Plastics Division, told the XIth International Congress of Pure and Applied Chemistry, in London. He believes the plastics industry will continue its growth for another five years, implemented by research based on the development of blends of plastics, the combining of plastics with other materials, and pioneering in the field of carbon, silicon, sulfur, phosphorus, and nitrogen types of plastics. Plastics producers expect to spend 150 million dollars for expansion facilities in the period from 1946 to 1948.

Corinne Judson, A.A.I.C., was married, June 29th, to Stanley S. Rosner. Their home address is 263 Roosevelt Avenue, York, Penna.

New Atomic Research Laboratory

Monsanto Chemical Company and the Atomic Energy Commission recently announced that Monsanto will cease atomic development activity at Oak Ridge, where for two years it has operated the Clinton Laboratories. Announcement is now made that Monsanto will operate a new laboratory for the Atomic Energy Commission to be opened in Miamisburg, Ohio, early in 1948. It will be known as Unit No. 5 of Monsanto's Research Department. There, over four hundred Monsanto scientists will conduct fundamental studies and develop techniques applicable to the atomic energy program. Dr. Carroll A. Hochwalt, F.A.I.C., vice president of Monsanto, is directing the present Units 3 and 4 at Dayton, which will be disbanded when the new unit opens. Personnel from Dayton will continue their research at Miamisburg.

Kuh Appointed Research

Associate

Dr. Erwin Kuh, F.A.I.C., since 1940 with the pharmaceutical research department of Calco Chemical Division of American Cyanamid Company, has been appointed research associate. He was formerly research chemist with Hoffman - La Roche, Basle, Switzerland, and later with Chemical Industry Aubing, in Munich.

National Science Legislation

(The report of the A.I.C. Committee appointed to consider this subject.)

THE AMERICAN INSTITUTE OF CHEMISTS approves the establishment of a National Science Foundation as a medium through which basic scientific research should be supported by the federal government.

THE AMERICAN INSTITUTE OF CHEMISTS, aware that major problems in man's existence yet await solution and that the benefits of research still unbegun can be tremendous, takes this stand for the following reasons:

1: Certain problems are so far-flung in scope that they require the broad resources and the facilities for coordination that the government alone can provide;

2: If the government does not step in to attack these problems on many fronts, the small-scale efforts put forth by private research may prove to be ineffective;

3: Absence of early profit provides no inducement for industry to engage in the type of problem that is important but neglected for monetary reasons; financial returns invariably lag far behind the inception of basic research.

Scientific investigation in this country has accounted for many triumphs

since the bold experiments of Benjamin Franklin two centuries ago. Private research can take the credit for most of this. But, obviously, the major unsolved problems of today are the more difficult ones requiring coordinated efforts on a grand scale. If these problems are to be solved within our lifetime, or within any reasonable period, the best hope lies in using facilities and resources on the broadest basis.

There is fortunately a precedent upon which to base expectations of the future if and when the government's full power be devoted to scientific problems, namely, atomic energy research. In a matter of a few years a battery of research workers compressed many years of experimentation into successful reality. This story can be repeated in other directions, including those problems which lie untouched for want of financial returns.

It is important to keep in mind that the atomic bomb would not have been evolved when it was had it not been for the years of basic research that preceded the Manhattan Project. University professors and

NATIONAL SCIENCE LEGISLATION

others, working in seclusion—without thought of the practical utility of their experiments, are the ones who really made the bomb possible; what followed was essentially only a matter of translating laboratory operations to large dimensions.

All research workers know that the best kind of research work grows in free territory — free from pressure, special interests, and politics. The Institute therefore views with disfavor the inclusion in S.526, "National Science Foundation Act of 1947," of apportionment of funds by geographic and population criteria, and for expenditure only in tax-supported institutions. Research should be conducted where it can best be conducted, and scientific specialists of the Foundation are best able to judge its proper locale. We therefore favor striking this section from the measure before final enactment.

The Institute believes that the National Science Foundation Act of 1947 is a laudable instrument in promoting the nation's scientific progress. However, it believes that the Act, without textual changes, can be made more potent by directing it specifically against the foremost enemy of the country and the world — namely, war. To that end it suggests that the statement of purpose of the Act include the phrase: ". . . to achieve permanent peace with all nations . . ." There can be, after all, hardly any consummation more

desired than this. Perhaps science with its unbiased and unbound approach can succeed where politics has failed.

LOUIS N. MARKWOOD, *Chairman*

DR. EDUARD FARBER

DR. GUSTAV EGLOFF

Science Foundation Bill Vetoed

The National Science Foundation bill was approved by the House of Representatives and the Senate on July 22nd. The provision for apportioning the foundation's funds among the states for use in tax-supported institutions was eliminated by the House Committee before the bill was presented for final vote.

After approval by the House, the bill then went to President Truman for his signature. On August sixth, he vetoed it and issued a memorandum, to the effect that the provisions of organization vested too much control in the hands of private citizens; that they would infringe on the chief executive's powers of appointment and authority; and that they were complex and unwieldy. He concluded, "I am convinced that the long range interests of scientific research and education will be best served by continuing our efforts to obtain a science foundation free from the vital defects of this bill . . . we must start with a law which is basically sound. I hope that the Congress will reconsider this question and enact such a law early in its next session."

We Present the A. I. C. Chapters

The objectives of THE AMERICAN INSTITUTE OF CHEMISTS are carried out locally through its twelve chapters. These chapters will be presented to our membership from time to time in **THE CHEMIST**.

The Pennsylvania Chapter Kenneth E. Shull, *Chairman*

THE Pennsylvania Chapter of The American Institute of Chemists officially came into existence on May 16, 1924, just one year after the parent body had been organized. At that time fourteen chemists from Philadelphia and vicinity met at Kepplinger's Restaurant on Woodland Avenue, to hear Dr. Horace G. Byers, the national president, speak on the objectives and future plans of the A.I.C. This group of chemists felt that the Institute had some definite purposes and that these could be fulfilled best for Pennsylvania chemists by concerted action through a local chapter.

Thus the purpose behind the Pennsylvania Chapter has been basically to carry out locally the objectives established by the national organization. Specifically in Pennsylvania it involves doing everything possible to advance the profession of chemistry, to improve the economic status of the profession, to provide recognition for distinguished service in the field of chemistry, and to aid in educating the

public to a better appreciation of the chemist's contribution to world progress.

In carrying out this program the local chapter holds six meetings a year, balanced as far as possible with respect to type of program, i.e., professional, general, and technical.

Although arrangements for the coming year are still in the embryonic stage, the basic plan has been worked out. In all probability there will be two types of meetings: First, professional symposia — one in the Fall and one in the Spring, conducted by several well-known authorities on professional matters and discussed by the membership at large; and, second, discussions of the major industries in Philadelphia and vicinity. These will be led by members of the Pennsylvania Chapter. It is hoped that many of the points developed in this way will be transmitted to the National Council.

An Activities Committee has been appointed and is now engaged in reviewing the entire set-up and procedures followed by the Pennsyl-

THE PENNSYLVANIA CHAPTER

vania Chapter. It is doing this with a view to recommending changes which should make the local Chapter of much greater benefit professionally to its members.

Committees dealing with Program, Membership, Dinner and Hospitality, Student Contact, Publicity, and Attendance, either have or are in the process of being formed.

The importance of personal contact between chemists cannot be over-emphasized. This is one aspect that can be served only intermittently by the national organization; it can be handled on a continuing basis only by the local chapter.

Each chemist has his own problems, the answers to many of which cannot be found in text books or in journals. They can be solved in many cases by talking to fellow chemists at a chapter dinner or before or after the meeting. In line with this, the officers and committees of the Pennsylvania Chapter make a special effort to see that all new members are introduced to as many as possible of those attending the meetings. The Pennsylvania Chapter has a reputation for fine fellowship and friendly atmosphere.

It has been said that other organizations have taken up some of the objectives of the A.I.C. Although it is gratifying to have this recognition of the worth of our aims, the Institute still remains the one organization devoted exclusively to the professional

aspects of chemistry, where chemists, employed in all types of industries, are brought together in a united effort to elevate and maintain professional status. This concentration on one broad objective gives the Institute the unity and power necessary for forceful action.

The vice-chairman of the Chapter is Dr. Glen W. Hedrick, project leader, Publicker Industries, Inc. The secretary-treasurer is John H. Staub, research chemist, Barrett Division, Allied Chemical and Dye Corporation, Philadelphia. John M. McIlvain, administrative supervisor, Research and Development Department of the Atlantic Refining Company, serves as councilor from the Chapter to the national A.I.C. council.

The Pennsylvania Chapter looks forward to an active year in which significant advances will be made in the profession of chemistry.

The Pennsylvania Chapter's Chairman

Kenneth Edgar Shull is chief chemist and superintendent of purification of the Philadelphia Suburban Water Company, Bryn Mawr, Pennsylvania. He is young, popular, hard-working, and extremely interested in the professional side of chemistry as well as in its technical aspects.

His first introduction to the A.I.C. came in 1938 when he was awarded a student medal by the Pennsylvania

Chapter, upon the occasion of his graduation from the Philadelphia College of Pharmacy and Science. As his experience and knowledge increased, he advanced from Associate to Member, to Fellow in the A.I.C. He was continuously active in the Pennsylvania Chapter, serving as news reporter and contributor to **THE CHEMIST**, on committees, and more recently as the Chapter's loyal and energetic secretary. For several years he contributed a column to the *Catalyst* and to **THE CHEMIST**, of which the title, "The Science Angler", no doubt was inspired by a fondness for fishing.

His first position was also secured in 1938 as chemist for the Philadelphia Suburban Water Company. Within four years, he had become so proficient that, although relatively young, he was appointed to the position of chief chemist in charge of the Water Treatment Division. His duties include direction of the chemical and bacteriological work in the company's five laboratories. One of his superiors says, "It is my thought that he is of a type who will thus continue to grow for many years."

National Council Meeting

The next meeting of the National Council of the A.I.C. is scheduled for Tuesday, September 9, 1947.

Student Medal Awards

The Chapters of The American Institute of Chemists may award student medals to senior chemistry students in recognition of leadership, scholastic excellence, and character.

Students who received 1947 Student Medal Awards from The Washington Chapter, A.I.C., are:

Carl Robert Bauer,
University of Virginia
George Ireland Poos,
George Washington University

Students who received 1947 Student Medal Awards from The Chicago Chapter, A.I.C., are:

Howard E. Holmquist,
Northwestern University
Harold Podolsky,
Illinois Institute of Technology
Robert John Pavlin,
University of Notre Dame
Alice Misgades,
University of Illinois
Virginia Ellen March,
University of Wisconsin
Harold Leo Friedman,
University of Chicago
James B. Henderson,
Purdue University

The New York Chapter's Student Medal Awards were reported on page 184 of the May issue of **THE CHEMIST**.

What Younger Men Expect the A. I. C. to Do

C. P. Neidig, M.A.I.C.

Burrell and Neidig, New York, N. Y.

(*Excerpts from a talk given before the New York Chapter, A.I.C.*)

WHEN I refer to the young chemist, I am primarily thinking of the men in college who are juniors and seniors, and the men who have been in industry for two or three years.

THE AMERICAN INSTITUTE OF CHEMISTS can be of tremendous assistance to the men in college. Perhaps some of you can remember back to those days. Did you know then why you had studied chemistry? Did you know what type of a job you wanted? Or did you interview any company and hope they offered you a job? I have had the opportunity of talking with a group of young men in that bewildered state and there is where I think we can be of help.

Most of these college men have no conception of what type of work they would be doing in a research laboratory, a pilot plant, a design group, or in straight production. Many have no conception of what differences there are, if one is to work for a petroleum company, a large organic chemical company, a company producing heavy chemicals, or a small specialty company. Even fewer col-

lege seniors know that their training fits them for jobs in advertising agencies, as technical salesmen, in patent work, and in the many non-laboratory or plant jobs that are open to chemically trained men.

In the ranks of the A.I.C. are many men who can supply both the questions and answers to these problems which face the young college men. If every A.I.C. section would contact the colleges in their locality and make arrangements to have several of their members talk to the college seniors, a great deal of doubt could be cleared from these younger men and they could be much more intelligent in their thoughts about their future positions.

From my experience, these talks should not be formal speeches, if the desired results are to be attained. Rather they should be informal "bullsessions," where the A.I.C. member can "let down his hair" and really tell the college men what industry expects of them. Thus if three A.I.C. men, one a research director, one a production man, and one doing sales work, were to sit down with a group

of chemistry seniors in a round table discussion, those young chemists would have a golden opportunity to get a clearer insight on what lies ahead.

College professors will likely dispute my next point, but I am convinced of it. The old adage "The squeaking wheel gets the grease" is still true in the chemical industry and, I believe, will always be true. By this I do not mean that the habitual complainer will be continually satisfied, but I do mean that mere ability is not always the criterion of success. The younger chemist must be told that his future is largely up to him. The chances are that no one will tap him on the shoulder, compliment him on a job well done, and push him up the ladder. If the young chemist wants to get into a different type of work, he must ask for it. The sooner he realizes this the better.

In discussions such as I am suggesting, the A.I.C. men could point things like these out to the younger chemist.

One of the best pieces of work done by the A.I.C. was the "Report on Employer-Employee Relations" which presented information on what questions to ask during interviews, etc. How many college seniors do you think have ever read this? Yet it should be required reading for them. Perhaps we have to sell the heads of the chemistry departments on that idea, but I think a better way is to have the A.I.C. men emphasize salient

points in the discussion groups.

All of us will agree that our friends and contacts are very valuable assets. The younger chemist must be made to realize this. Perhaps our discussion groups can help bring this home to him. He should be urged to attend all technical society meetings regardless of the subject of the talk. Too many chemists go to A.C.S or A.I.C. meetings only to hear the speaker on a subject which interests them. In my opinion the criterion should be, "Can I meet more of my fellow chemists there? If the answer is yes, I will certainly try to attend."

The previous thoughts have been largely on the young man who has not, as yet, received his college degree. I think the A.I.C. can really help these men by going to their campuses and sitting down in an informal session to try to picture the future with them.

As a further help for the men in college, the A.I.C. could sponsor plant trips for college seniors in their various localities. One of our clients, a small chemical company, annually invites the chemistry class of the local high school to spend an afternoon at his plant. When they go away, they have at least some idea of what is done in the chemical industry. Such trips for college men could be even more valuable.

In a recent council meeting in the New Jersey section, we considered an idea which was also aimed to help

WHAT YOUNGER MEN EXPECT . . .

the younger chemist — this time the man who has been in industry for several years. This idea involved the holding of small meetings in various parts of Jersey. Attendance would be limited to ten to twelve, all by invitation so that the presence of younger men would be assured. We drew up a list of many controversial subjects which could be used as a basis for a "bull-session" to be followed by light refreshments, such as beer and pretzels. The purpose of these meetings was to obtain the opinions of the younger men on points of issue such as licensure, economic

status, professional status, unions, etc. The opportunity for the younger men to enter informal discussions with the older men should be extremely helpful to these young men.

There are many similar things that we can do for the younger chemist. Giving students medals and having programs such as the New York Section recently held in which it surveyed various types of positions open to chemists, are definitely steps in the right direction. But they involve the younger men coming to us. That is wrong. If we really want to help the younger chemist, we must go to him.



Pacific Chemical Exposition

Everyone registering for the Pacific Industrial Conferences, running concurrently with the 1947 Pacific Chemical Exposition in San Francisco, October 21st through 25th, is invited to attend any and all programs presented by the participating groups, announces Dr. R. D. Stewart, of the University of California, program coordinator for the conferences. These groups are the California Section, American Institute of Chemical Engineers; American Society for Testing Materials; American Institute of Mining and Metallurgical Engineers; Golden Gate Paint and Varnish Production Club; Northern California Rubber Group; Pacific Insecticide Institute; Institute of Food

Technologists; Western Chemical Market Research Group; Analytical Group, California Section, American Chemical Society; Petroleum Group, California Section, American Chemical Society.

The Quest for Truth

We are suffering now and shall probably suffer for some time to come from the necessity which the war brought us of suppressing truth . . . But this necessity, forced upon us by a situation that we could not control, has bred a recklessness concerning truth which is a worse legacy of the war than even the starvation and want which have cursed mankind. War encourages certain virtues such as courage and unselfishness, but the

virtue of truthfulness becomes a war casualty.

And thus the taking of liberties with the truth has become a striking social phenomenon. Every college needs to remind itself and its students that, because of all that has happened in recent years to obscure the truth and to make truth seem less important, the colleges of this country and other countries must assert again the primacy of the persistent quest for truth . . .

—Paul Swain Havens, president
Wilson College, Chambersburg, Pa.

Hygrade Opens Pharmaceutical Division

Hygrade Food Products Corporation has created a new division, Hygrade Laboratories, Inc., at 601 West 26th Street, New York, N. Y., to prepare bulk pharmaceuticals from animal glands and tissues available from the parent company's operations.

With Power—Responsibility

Never before has the scientist and technologist been more respected or his opinions more sought after. In every walk of life he is taking an active part. Even in political circles his advice is sought. With this new position must come responsibility, and this is no time for men of science to talk idly, no time for self-aggrandizement or pettiness. For with the attainment of influence, the man of

science wields a two-edged sword. If properly used, it can cut the bonds that are holding back the rebuilding of this war-wrecked world. If used selfishly and destructively, it can set civilization back many years.

Long and fruitless arguments ensue over the advantages to mankind of pure research versus applied research, when the truth is that both support and complement each other. Scientists should ever remember that they are seekers after the truth and as such there is no place for sophistry or smug complacency. This is no time for a "holier than thou" attitude, an attitude which might build a caste system for men engaged in work on fundamental science. Both the theoretician and the engineer forgot such things in a mighty cooperative effort to win the war. Is not the need just as great now in framing a lasting peace?

It is well to remember that the great spearheads in scientific advancement were not made with the most modern of equipment or in marble halls. In the last analysis, man's ability and character are our greatest assets. It might be well to read again and remember the words attributed to Plato, that the search for truth is a thrilling and inspiring adventure, and "by seeking to know, we shall be better, braver, and less helpless."

—Report of the 46th Annual Meeting
of Monsanto Stockholders

Necrology

Raymond R. Ridgway

Raymond Ronald Ridgway, associate director of research, The Norton Company, Niagara Falls, N. Y., was drowned, June 12th, in the upper Niagara River.

He was born at Morris, Illinois, in 1897. He obtained the B. S. degree in electrochemistry from Massachusetts Institute of Technology. From 1914 to 1922, he was electrical engineer for Ridgway Electric Company. He then joined the Norton Company, becoming associate director in 1940.

He specialized in abrasives, electric furnace products and processes, high temperature reactions, alumina purification processes, the metallurgy of rare metals, carbides, nitrides, borides, silicides, and ferro-alloys.

He held twenty-six U. S. patents, twenty-four Canadian patents, and forty-three miscellaneous foreign patents. He was the author of several papers published by the Electrochemical Society.

In 1943, he received the Schoellkopf medal of the Western New York section of the American Chemical Society.

He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1946.

William H. Ross

Dr. William H. Ross, retired principal chemist, Division of Soils, Fertilizers and Irrigation, Bureau of Plant Industry, U. S. Department of Agriculture, died in Washington, D. C. on May 16th at the age of seventy-one.

A native of Nova Scotia, and later a citizen of the United States, Dr. Ross took undergraduate work and the master's degree at Dalhousie University, Halifax, studied at Johns Hopkins, and at the University of Chicago from which he took the doctor's degree. There he did some of the early research work on radioactive substances under the late Dr. Herbert N. McCoy.

Dr. Ross was an authority on the chemistry of fertilizer phosphates, and it was largely due to his researches that the true chemical composition of phosphate rock and the various compounds resulting from the acidulation of phosphate rock was determined. He also did pioneer work in the production of phosphoric acid in the electric furnace. Among other noteworthy research accomplishments in fertilizer chemistry were the ammoniation of superphosphate, the granulation of fertilizers and fertilizer materials, moisture determination, boron toxicity, and conditioning

of fertilizers and fertilizer materials. His latest project was research on the use of ammonium nitrate in fertilizers, its chemical analysis and treatment to avoid caking.

After several years as chemist at the University of Arizona, he joined the U. S. Department of Agriculture where he remained thirty-four years until his retirement last year. During his retirement he still cooperated with his old Division, and acted as consultant for the National Fertilizer Association.

He was the author of more than one-hundred and fifty scientific papers and patents. He was associated with *Chemical Abstracts*, being at one time assistant editor and continuously an abstractor since the journal was founded in 1907. For many years he was Referee on Phosphates of the Association of Official Agricultural Chemists and was president of that organization last year.

Dr. Ross was a captain in the Chemical warfare Service in World War I, and was interred in Arlington National Cemetery. He belonged to many scientific societies, among which are the American Association for the Advancement of Science, the American Chemical Society, the American Society of Agronomy.

He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1927.

Frank C. Whitmore

Dr. Frank Clifford Whitmore, dean of the School of Chemistry and Physics of Pennsylvania State College, died June 24th of a heart ailment, at the age of fifty-nine.

He was born at North Attleboro, Massachusetts. He received the A.B. degree, *magna cum laude*, the A.M. degree with highest honors in chemistry, and the Ph.D. degree from Harvard University. He instructed for one year at Williams College; served as assistant professor at the University of Minnesota from 1918 to 1920, and became successively professor, acting head, and head of the Department of Chemistry at Northwestern University. In 1929, he was appointed to his recent position at Pennsylvania State College.

He specialized in the organic compounds of mercury, molecular rearrangements, aliphatic chemistry, organo-silicon monomers, and synthetic drugs, and won international recognition for his researches. In 1937, he was awarded the William H. Nichols medal and, in 1945, the Willard Gibbs medal for outstanding contributions to organic chemistry. Last year he was elected to the National Academy of Sciences.

Dr. Whitmore's publications were numerous and include the well-known textbooks, "Organic Compounds of Mercury" and "Organic Chemistry."

NECROLOGY

He was associate editor of "Organic Syntheses"; associate editor of the *Journal of the American Chemical Society*; a member of the advisory board of the 14th edition of the "Encyclopedia Britannica", and a member of the advisory board of *Chemical and Engineering News*.

He was consultant to many industrial and federal groups, including the Department of Agriculture, the Chemical Warfare Service, the War Production Board, the War Manpower Commission, the Quartermaster General's office, and the Office of Production Research and Development. He was in charge of war research in aviation at Pennsylvania State.

He belonged to many professional societies. He served as chairman of the National Research Council from 1927 to 1928; member of the Central Petroleum Committee 1926 to 1930; vice chairman of the American Association for the Advancement of Science in 1932; and in 1938, president of the American Chemical Society.

Dr. Whitmore became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1947.

Glen M. Smyth

Glen M. Smyth, chief chemist, Vat Dye Division, Calco Chemical Division of American Cyanamid Company, Bound Brook, N. J., died June

fourth, at the age of fifty-eight.

He was born in Horton, Kansas. He received the A.B. degree from Leland Stanford University, and the M.A. degree from Harvard. He also did post-graduate work at Charlottenburg Technische Hochschule and at Harvard University.

He was chief chemist for Union Dye and Chemical Corporation, Kingsport, Tenn., from 1916 to 1918; and technical director and resident manager of the Beaver Chemical Corporation from 1919 to 1923, when Beaver Chemical was purchased by Calco Chemical Company. Calco later became a division of American Cyanamid Company.

Mr. Smyth contributed greatly to the development of a sulfur and alizarin dye industry in the United States.

He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1932.

Snell Appointed to International Relations Committee

Dr. Foster D. Snell, president A.I.C., has been appointed to the Committee on International Relations established by the American Chemical Society. Other members of the committee are Prof. Chester M. Alter of Boston University, and Prof. Floyd T. Tyson of Temple University. Dr. Louis P. Hammett of Columbia University is chairman.

Coolidge in Japan

Dr. William D. Coolidge, F.A.I.C., director emeritus of research, General Electric Company, has gone to Japan as an expert advisor to General MacArthur's staff. He plans to remain there about a month.

Science Photographs to be Exhibited

Edward Steichen, recently appointed director of photography at the Museum of Modern Art, New York, N. Y., announces that two exhibitions are planned to be held after January first. One will be "Great News Photographs"; the other, "Photography in the Service of Science in War and Peace."

Dr. Charles Allen Thomas, F.A.I.C., was recently elected executive vice president of Monsanto Chemical Company. His previous position was vice president and technical director. He will continue to serve as technical director.

Dr. C. A. Hochwalt, F.A.I.C., director of the Central Research Department, was elected vice president of Monsanto.

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When Errors Occur

Member of the A.I.C. have frequently been urged to write to editors of publications when errors of fact concerning chemists or chemistry appear. Editors are glad to receive information which will assist them to inform the public correctly. The complexity of chemistry and the lack of published material on so many phases of the industry make it difficult to check details.

Dr. Vandever Voorhees, F.A.I.C., recently noticed a failure to give credit to the inventor of foam rubber. (Article: "Foam Rubber", *Business Week*, June 14, 1947). He wrote to the editor, complimenting him on a well-presented article, but asking that it be corrected to credit Frederick Untiedt, Washington, D. C., chemist, with foam rubber's invention, covered by U. S. Patent 1,777,949 in 1930, and recognized by the Dunlop Rubber Company, which manufactures this product.

B. E. Schaar, F.A.I.C., president of Schaar and Company, 754 West Lexington Street, Chicago 7, Illinois, announces the appointment of Irvin S. Feldman as assistant sales manager. Mr. Feldman joined the company, which manufactures and distributes laboratory equipment and scientific instruments, in 1945 as sales representative.



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June Meeting

The National Council held its 238th meeting at the The Chemists' Club, 50 East 41st Street, New York, N. Y. on June 17th, with Dr. Foster D. Snell, president, presiding. In attendance were officers and councilors, F. A. Hessel, F. C. Huber, H. L. Fisher, L. H. Flett, J. Mattiello,

J. J. Miskel, H. S. Neiman, E. H. Northey, F. D. Snell, L. Van Doren, and L. T. Work. A. J. Nydick and V. F. Kimball were present.

The minutes of the previous meeting were approved and the report of the treasurer was accepted.

A vote of thanks was given to Dr. Joseph Mattiello, chairman of the

Committee on Arrangements for the 1947 annual meeting, for the excellent work which he and his committee accomplished.

L. H. Flett, co-chairman of the Committee on Membership, reported activities to form new chapters in Detroit, Michigan and in Virginia.

Dr. Donald B. Keyes, chairman of the Committee to Suggest Speakers for chapter meetings, submitted a list of names, and the Secretary was requested to refer this to the chairmen of the various chapters.

The Committee to Consider National Science Legislation presented its report (See page 332) which was accepted by the National Council.

A release submitted by the American Institute of Accountants concerning HR 2657 was presented. It was referred to the Committee previously appointed to consider this subject, consisting of Dr. Donald Price, chairman, Dr. Donald B. Keyes and Mr. A. J. Nydick. This committee was then authorized to prepare a report and to submit it to the Executive Committee of the Council for consideration.

An Objectives Committee was appointed to draw up a list of the objectives attained by the INSTITUTE in the past; a list of objectives to be attained in the near future, and any additional broad objectives which seemed desirable. Committee members are: Dr. E. H. Northey, chairman, Karl M. Herstein, A. J. Ny-

dick, Dr. Raymond E. Kirk, and Miss Mary Alexander.

A suggested presentation of INSTITUTE activities was submitted. The Councilors were requested to make changes if they desired, and to return them to the INSTITUTE office. The presentation will then be mimeographed for use until the report of the Objectives Committee is received. It may then be desirable to incorporate the two into one presentation.

Dr. F. C. Huber recommended that Chapters make more contacts with educational institutions in their areas to inform younger men about the INSTITUTE. The Secretary was asked to write to the chairmen of the local Chapters recommending more educational activities.

Letters from Alfred S. Brown and William S. Horton, concerning the INSTITUTE, were read.

A. J. Nydick spoke on the importance of securing membership from among the biochemists, who as chemists contribute much to the welfare of the public. A Committee on the Chemist in Public Health was appointed, consisting of Dr. J. W. E. Harrisson, chairman; A. J. Nydick, L. H. Flett, A. J. Orlando, N. Langsam, and Warren M. Sperry. Authority was given to the committee to choose additional members.

J. J. Miskel suggested that a "seal of approval" be given to those companies which maintain suitable professional standards for chemists. After

McKean, Walter A.

Chief Chemist, Allied Asphalt and Mineral Corporation, Dunellen, N. J.

Razzano, Dominick D.

Chief Chemist, Hilo Varnish Corporation, Brooklyn, N. Y.

Richard, Emory A.

Chief Chemist, Airedale Worsted Mills, Inc., Woonsocket, Rhode Island.

Seavy, Robert H.

Instructor, Stevens Institute of Technology, Hoboken, New Jersey.

Associates

Monahan, Emily,

Chemist, Oakite Products Company, New York, N. Y.

Wilmsen, George M.

Graduate Student, University of Wisconsin, Madison, Wisconsin.

Raised from Members to Fellows

Affens, Wilbur A.

Associate Chemist, U. S. Department of Agriculture, Insecticide Division, New York, N. Y.

Long, Robert S.

Assistant Chief Chemist, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.

Simonoff, Robert,

Organic Chemist, General Electric Company, Pittsfield, Mass.

Raised from Associate to Member

Johnson, Dwight H.

Chemist, Hilo Varnish Corporation, Brooklyn, New York.

There being no further business, adjournment was taken.

Chapters

New Jersey

Chairman, Paul Allen, Jr.

Vice Chairman, R. W. Charlton.

Secretary, Harry Burrell, Burrell and Neidig, 115 Broadway, New York 6, N. Y.

Treasurer, John B. Rust.

Council Representative, G. L. Royer.

At the annual meeting of the Chapter held on June sixth, the officers listed above were elected for 1947-48. In addition, the following members were elected to the Chapter council: Dr. J. L. Brannon, Dr. A. Garrett Hill, Dr. Herbert Mackinney, Dr. Delmer L. Cottle, and Mr. V. H. Chalupski.

The program committee for 1946-47, consisting of Dr. H. W. Mackinney, chairman, Mr. C. P. Neidig, and Dr. G. L. Botti, reported that, during the year, the following schedule of meetings was held:

On September 23rd, at the Public Service Auditorium, Newark, about three-hundred members and guests were addressed by Sidney Kirkpatrick,

CHAPTERS

editor, *Chemical and Metallurgical Engineering*, on his observations of atomic bomb tests "Able" and "Baker" at Bikini. His talk was illustrated by slides and motion pictures.

On December 9th, at the same place, a joint meeting was held with the North Jersey Section of the American Chemical Society, with Dr. W. J. Sparks presiding. Alden H. Emery, secretary of the American Chemical Society, spoke on "What's Ahead for the ACS?" and Dr. Foster D. Snell, president, AIC, gave an address entitled, "Chemistry, a Profession".

A plant inspection trip was arranged for June sixth. About one-hundred members inspected the laboratories and synthetic vitamin plant of Hoffman-La Roche, Inc., Nutley, N. J.

Keyes Receives Honorary Degree

Dr. Donald B. Keyes, F.A.I.C., vice president in charge of research and development, Heyden Chemical Corporation, New York, received the Honorary Doctor of Engineering degree from Stevens Institute of Technology on June seventh.

Speaking before the graduating class, Dr. Keyes stated, "An engineer's or a scientist's success depends upon the accuracy of his appraisal of ideas, data, statistics, experimental results, and men."

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PLASTICS BUSINESS. By Herbert R. Simonds and Joseph V. Sherman. *D. Van Nostrand Company, Inc.* 1946. 439 pp. 6" x 9". \$5.00.

The authors of this volume have attempted to present, in a concise form, a general picture of the plastics industry as it exists today from the point of view of the raw material manufacturers and the fabricators.

In this attempt they have succeeded to an extraordinary degree. Within the scope of the book there is included descriptions of the industry, the characteristics of the raw materials, the organization and statistics of the main plastics companies as well as the chapters on sales, prices, future and foreign markets for plastic materials. The authors have also touched on such closely related fields as chemicals, synthetic rubber, plywood, and paint.

A chapter in this volume which may be of great interest to plastics technologists is that entitled "Effects On Other Industries" (of plastic products). This chapter deals with the relatively controversial subject of whether, or in what degree, plastics could displace other materials, and treats this subject, not from the point of view of displacement, but rather on the assumption that plastics will be of aid to other material industries.

The book is very readable, is well-indexed, and should be of interest not

only to the plastics technician but also to business and technical men in general who have contact with the plastics industry.

—John B. Rust, F.I.I.C.

ORGANIC ANALYTICAL REAGENTS.

By John H. Yoe and Landon A. Sarver. *John Wiley and Sons.* 340 pp. 9 1/4" x 6 1/4". \$4.00.

The reported use of organic analytical reagents is collected in one volume and much data made available for use and further examination. It is perhaps wise that many tests are reported without criticism, leaving the selection to the analyst to suit the problem.

THE CHARACTERIZATION OF ORGANIC COMPOUNDS.

By Samuel M. McElvain. *The Macmillan Company.* 282 pp. 6" x 8 3/8". \$3.40.

This is a concentrated organic chemistry book, with a great amount of material contained in a small space, including physical procedures, experimental preparations, and tabulated characterizations.

QUALITATIVE ORGANIC MICRO-ANALYSIS.

By Frank Schneider. *John Wiley and Sons.* 218 pp. 6" x 8 3/8". \$3.50.

This volume concerns itself chiefly with micro-analytical procedures

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and the ingenious methods devised. The tests used are those of macro-organic chemistry, selected and adapted to the size of the sample. The technique and description of apparatus is excellent.

MESON THEORY OF NUCLEAR FORCES. By Wolfgang Pauli. *Interscience Publishers, Inc.* 69 pp. 5½" x 8". \$2.00.

With the discovery of the meson, approximately two hundred times the rest mass of the electron, many modifications of sub-atomic phenomena were indicated. This book discusses various hypotheses of the action and interaction of mesons and nucleons (heavy sub-atomic particles), which are not satisfactorily answered either by relativistic or non-relativistic theory.

This book brings present theories up to date, and includes the usual higher mathematics dealing with this subject.

—J. A. Steffens

UNIT PROCESSES IN ORGANIC SYNTHESSES. By P. H. Groggins. *McGraw-Hill Book Company.* 3rd Edition, 1947. 931 pp. \$7.50.

The third edition of this well-known textbook should be a welcome addition to any chemical library. Each chapter has been written by an expert in the field and has been thoroughly revised to bring it up to date. The references are abundant.

NEW REINHOLD BOOKS

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This book is general in scope, simply and clearly written. It contains numerous structural formulas showing the chemical changes involved in reactions and processing; many tables of physical properties and other pertinent information; over 270 pictures of products, methods and manufacturing techniques; and many charts and diagrams. All major types of plastic materials are discussed. Sections are devoted to plywood gluing techniques and mold design.

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The general plan of the book remains unchanged, but there is greatly increased emphasis on the aliphatic compounds and many new flow diagrams have been added. There is also an appendix showing the diverse products which can be obtained from petroleum hydrocarbons.

In the opinion of the reviewer, this book is a very fine piece of work, and it would be hard to praise it too highly. It is easy and pleasant reading. The excellent chapter on polymerization by Professors Clark and Hohenstein includes most of the recent war developments in this field, such as the continuous production of Buna S rubber, silicone resins, allyl esters for low pressure molding of large objects of intricate shape, polyethylene and a wealth of other material.

—Dr. Homer Van B. Joy,
F.A.I.C.



Chemisches Zentralblatt is again being published. Starting with the issue of January, 1947, it is published once every two weeks, with plans for later publication weekly. Minimum subscription is 55 RM for one-quarter year. At a later date the issues for 1945 and 1946 will be made available. Further information may be obtained from Akademie-Verlag, G. m.b.H., Bruderstrasse 26-27, Berlin C2, Germany.

John Wiley and Sons, Inc., New York announce completion of the three-volume work "Chemical Process Principles," by O. A. Hougen and K. M. Watson, professors of chemical engineering at the University of Wisconsin. Part I, *Material and Energy Balances* (\$5.00), was published in November, 1943. Part II, *Thermodynamics* (5.00), is released this month, and Part III, *Kinetics and Catalysis* (\$4.50), will be issued in September. As an accessory tool for the series, fifty-two 8½" x 11" charts, made from the figures in the books, have been issued, in a plastic binder, (\$3.00), to permit greater precision in calculations.

The Phoenix Chemical Laboratory, Inc., 3953 Shakespeare Avenue, Chicago 47, Illinois, has resumed publication of bulletins of general interest to users of petroleum products. The first bulletin, dated July first, features "Lubricating Oils Used in Internal Combustion Engines".

Mapleton House, publishers, 5415-17th Avenue, Brooklyn 4, N.Y., have been authorized by the U. S. Department of Commerce to reprint certain formerly restricted Intelligence Reports on formulas, manufacturing processes and production methods in the German chemical, metal, ceramic, and textile industries. A list of the available reports may be obtained on request to Mapleton House.

The Department of Commerce has authorized Research Information Service, 509 Fifth Avenue, New York 17, N. Y., to publish translations of German research reports, patents, and patent applications. Many of these are engineering records which represent the research work of I. G. Farben, Krupp, Sieman, and other well-known manufacturers. Patent applications and research records pertain-

ing to textile production, processing, machinery, and related subjects are presently available as complete translations. The organization is also equipped to handle German scientific translations for individuals.

A complete list of documents available and further information may be obtained from Research Information Service.

Suggested for Professional Reading

"Manual on Collective Bargaining for Professional Employees. Part I. The National Labor Relations Act and Professional Employees." Published by the Committee on the Economic status of the Engineer. Engineer's Joint Council, 33 West 39th Street, New York 18, N. Y. \$1.00. This manual presents the essential features of the National Labor Relations Act, reviews professional society activities, including those of THE AMERICAN INSTITUTE OF CHEMISTS, and discusses various factors involved in labor organizations for professional employees.

"The Coordination of Motive, Men and Money in Industrial Research", a survey, prepared by the Organization Council of the Standard Oil Company of California, of organization and business practices conducted by the Department on Organization of that company in cooperation with ten other large firms. Executives and directors of research may obtain it by request to the company at San Francisco 20, California.

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"Who's Who in Labor", a comprehensive biographical listing of local and national labor leaders, prepared in consultation with a board of advisors from the A. F. of L. and the C. I. O., \$12.00 per copy, The Dryden Press, 386 Fourth Avenue, New York 16, N. Y.

"The American Individual Enterprise System," two volumes, 1160 pages, \$10.00 per set; \$7.50 for each additional set. Published by The National Association of Manufacturers, New York, N. Y.

Dr. Gustav Egloff Recommends:

"A plea for Higher Standards in the Engineering Profession," by Frederick S. Blackall, Jr., president, The Taft-Pierce Manufacturing Company, Woonsocket, R. I. *Mechanical Engineering*, November 1, 1946 . . . "Both the competence and the economic status of our profession will be enhanced by an increasing emphasis by this Society (A.S.M.E.) on quality rather than quantity . . ."

"What Management Expects of an Engineer" by A. C. Rubel, vice president, Union Oil Company of California. Reprint of a paper presented at the joint meeting of the Texas Local Sections, A.I.M.E., at Austin, Dec. 19, 1946. Plain speaking on such subjects as Development of Engineering Talent, Human Relations, Hard Work, Independent Thinking, Initiative and Cooperation, Proper Presentation of Ideas, Problems of Management, Responsibility to Community, a Part of Management, Engineering Salaries (no figures given).

"The 40-year Deadline." Dr. H. A. Wagner, chairman of the American Association of Engineers' National Committee on Employment. "Technical and professional societies should . . . mercilessly publicize the unfairness and . . . the far from beneficial effect of age-restrictions on society, as well as on engineers and their employers."

"Correlation Between Research and Commercial Banking," by Earl P. Stevenson, president, Arthur D. Little, Inc. Published in the December *Bulletin* of Robert Morris Associates.



Dr. Daniel Melnick has been appointed director of the Institute for Applied Research (successor to Applied Research Laboratories, Inc.), Dayton, New Jersey.



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Collier Enters Consulting Field

Charles V. Collier, Jr., F.A.I.C., has left the research laboratories of Vick Chemical Company to start his own consulting practice at 301 East Fern Street, Tampa 4, Florida.

Dr. Johan Bjorksten, F.A.I.C., president, Bjorksten Laboratories, Chicago, announces that James R. Darnell has joined the company as assistant to the president. He was formerly with Corn Products Refining Company, and the Pure Oil Company.

Robert P. Russell, president of Standard Oil Development Company, is resigning to become technical consultant to International Basic Economy Corporation, 30 Rockefeller Plaza, New York, N. Y. He will be succeeded as president of Standard Development by E. V. Murphree, executive vice president.

Kenneth H. Klipstein, F.A.I.C., has been appointed assistant general manager in charge of the Development Department of Calco Chemical Division of American Cyanamid Company, Bound Brook, N. J. Prior to his appointment, he was director of New Products Development. He has been with Calco since 1933.

Positions Available

The Institute for Research will accept applications from competent chemists, bacteriologists, and toxicologists, skilled in animal experimentation for research and control positions at Dayton, Ohio. Full details of training and experience, availability and salary desired, and a small inexpensive photograph, should be sent by first letter. All applications will be acknowledged. Write The Institute for Research, 393 West First Street, Dayton 2, Ohio.

Scientific Positions in Navy Department

The Navy Department has vacancies in various professional classifications, such as physicists and industrial specialists. Positions are located in Washington, D. C. Salaries range from \$2,645 to \$10,000, depending on education and specialized training. Experienced persons are especially desired in the fields of jet propulsion and radioactivity. For information, contact Special Projects Section, Navy Department, EXOS:AO:612, 18th and Constitution Avenues, N. W., Washington, D. C.

"The Chemical Consultant and Your Business," 1947 edition. Includes policy in relation to clients, basis of charges, and types of agreements offered. Available from Foster D. Snell, Inc., 29 West 15th Street, New York 11, N. Y.

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Leonard with Lakeside Laboratories

Clifford S. Leonard, F.A.I.C., has joined the staff of the Lakeside Laboratories, Inc., Milwaukee, Wisconsin, as chief of the Biological Division in charge of pharmacological research and biological control.

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Crossley Receives Honorary Degree

Dr. M. L. Crossley, past president A.I.C., and 1947 medalist, received the honorary D.Sc. degree from Wesleyan University, Middletown, Conn., at its commencement exercises in June.



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